The Real Estate ANALYST

FEBRUARY 27
1942

Roy Wenzlick
Editor

A concise easily digested periodic analysis based upon scientific research in real estate fundamentals and trends....Constantly measuring and reporting the basic economic factors responsible for changes in trends and values.....Current Studies.... Surveys....Forecasts

VOLUME XI

REAL ESTATE ECONOMISTS, APPRAISERS AND COUNSELORS

GOVERNMENT HOUSING SHAKE-UP

AT a press conference on February 24, President Roosevelt announced the complete reorganization of the Federal housing agency set-up. John B. Blandford, Jr., has been appointed as the administrator of a new, consolidated establishment which will be known as the National Housing Agency. Under this new arrangement the sixteen separate housing agencies - including the FHA, the HOLC and USHA - will now become a part of the NHA. Charles F. Palmer, formerly Defense Housing Coordinator - will be sent to London as the President's representative to study housing under actual war-time conditions.

Mr. Blandford since 1939 has been assistant director of the Bureau of the Budget; the preceding two years he served as general manager of the Tennessee Valley Authority. He is forty-five years of age, is a mechanical engineer with most of his experience either in governmental research or in governmental administration.

It is to be hoped that his appointment will end the internal conflicts and jealousies among the various housing groups which have almost amounted to a public scandal during the past six or seven years.

Charles F. Palmer, former Defense Housing Coordinator, speaking before the National Public Housing Conference in Washington on February 6 said: "After the war, public housing ought to expand almost explosively. I believe there ought to be a program of 600,000 publicly-built houses a year for ten years after the war. These 6,000,000 homes would care for a substantial portion of that 'one-third of a nation ill-housed.' Public housing will then have the chance to grow up and take its place as one of our greatest instruments for human betterment."

We have defended Mr. Palmer in the Real Estate Analyst from time to time. However, we believe that this statement shows that he either lacks information on the volume of building which is ordinarily done in the United States or else that he favors the almost complete socialization of the housing field.

In the past ten years, as nearly as can be determined, 2,969,000 non-farm homes have been built. This includes all public housing and the very large amount of housing stimulated by the easy financing of the FHA. There has been no ten-year period in our history when we have built, privately and publicly, as many as 6,000,000 homes. For the Government to undertake the building of that number would mean a complete cessation of all private building, as private building clearly cannot compete with the subsidized building of the Government.

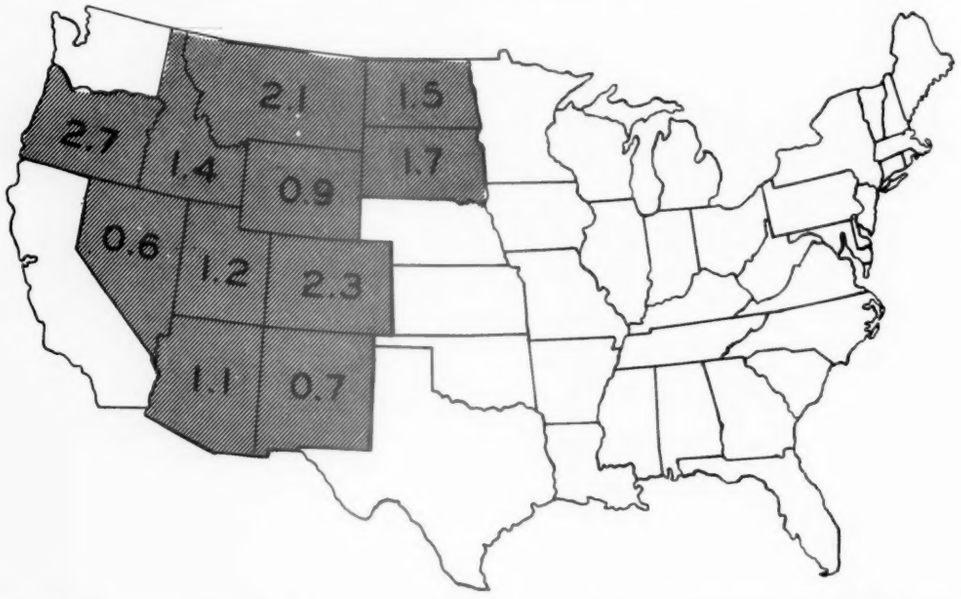
DEFENSE EXPENDITURES

DURING January actual defense expenditures reached a new high of more than $2 billion for the month. This is just the beginning, however, as before the war is over we will reach some months with expenditures of $5 billion in a month's time. The amount of money spent on defense in January is almost exactly equivalent to the total wealth of the state of Montana.

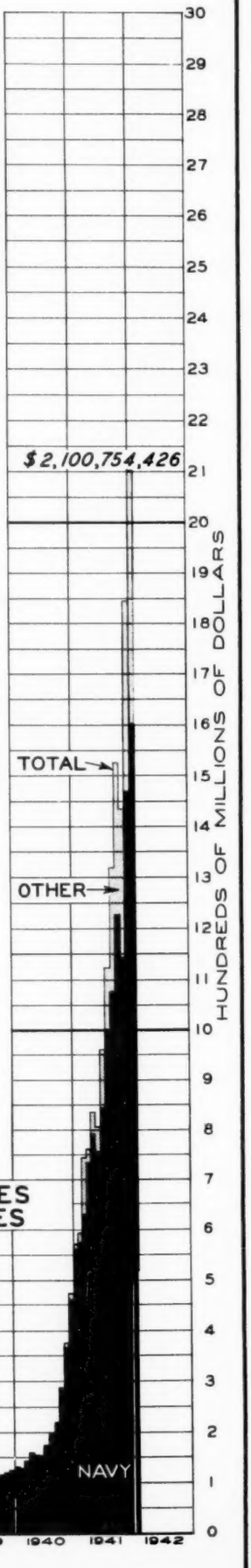
On the map below we have attempted to visualize the dollar amount of actual defense expenditures from July 1, 1940, through January 1942. These expenditures are equivalent to the estimated total wealth of the eleven states shown on the map below. The large figures on each state show the estimated wealth of that state in billions of dollars.

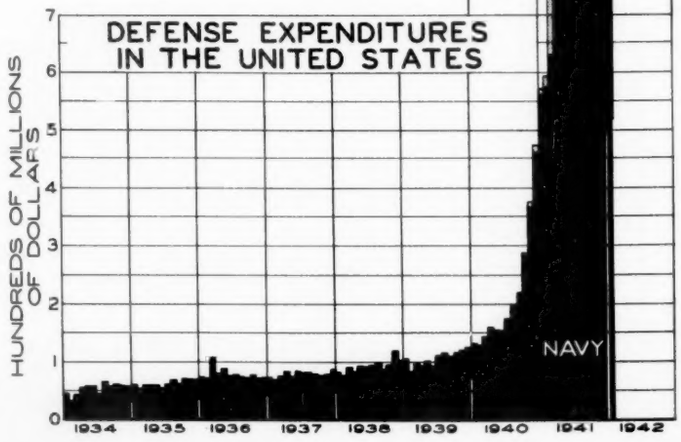
"Estimated wealth" includes real estate, railroads and other public utilities, and everything of value in the state. At the peak of our defense expenditures we will probably exceed $60 billion in a given year.

As stated before, these illustrations are not given with



the intention of criticizing our foreign policy. We believe that it is imperative that our armed forces be prepared as rapidly and as completely as possible. By these illustrations, however, we are trying to emphasize the tremendous problems in trying to prevent a high degree of inflation. We believe that a reasonable degree of inflation is inevitable and that this inflation will affect real estate values to a marked extent.





THE GOVERNMENT AND NEW BUILDING

DURING 1942 the volume of building will depend almost entirely on Government policy. For that reason the forecast shown in the table below, released by the Bureau of Labor Statistics of the United States Department of Labor, is more significant than it would be in a year in which ordinary economic incentives determined to a large extent the volume of building which would be done.

It will be noticed in this table that the total volume of all types of construction is expected to exceed the levels for 1939, 1940 and 1941, but that total private construction is expected to be below these previous years.

The only items of private construction which are expected to exceed the previous years shown are farm residential buildings and farm service buildings. This would indicate that the Bureau of Labor Statistics expects the farmer to continue to get preferential treatment on critical materials needed in building.

New Construction Expenditures in the United States 1/
1939, 1940, 1941, and Estimate for 1942

(Millions of dollars)

	1939	1940	1941	1942
Private Construction				
Residential (nonfarm) 2/	$2,050	$2,320	$2,680	$1,700
Nonresidential (includes privately financed defense plants)	900	1,050	1,290	600
Farm				
Residential	195	211	230	250
Service buildings	230	257	300	350
Public Utility	567	686	848	750
Total Private Construction	$3,842	$4,524	$5,348	$3,650
Public Construction				
Residential (includes defense housing)	81	210	500	1,000
Nonresidential (excludes industrial facilities)	815	365	265	100
Industrial facilities	20	130	1,200	2,000
Military and Naval (does not include industrial facilities or defense housing)	130	440	1,500	2,800
Highway	880	940	1,010	700
Other Public				
Federal 3/	322	375	430	400
State and Local 4/	330	240	220	100
Total Public Construction	$2,578	$2,700	$5,125	$7,100
Total New Construction	$6,420	$7,224	$10,473	$10,750

1/ The estimates include expenditures for new construction in the continental United States. They do not include work relief construction expenditures or maintenance expenditures. The estimates do include expenditures for major additions and alterations.
2/ The residential totals have been adjusted to the new levels indicated by the 1939 Census of Housing.
3/ Mainly river, harbor, and flood control, reclamation and power projects.
4/ Includes water supply, sewage disposal, and miscellaneous public service enterprises.

PARETO'S LAW AND CITY SIZE

IN 1896 Vilfredo Pareto, an engineering genius born in Paris of Italian parentage, published his discoveries concerning the distribution of income. The distribution pattern which he found is now generally known as Pareto's Law. In simplest terms, Pareto's law states that larger incomes are received by comparatively few people, and as incomes decrease in size the number of people receiving them increases in such a fashion that if incomes of any given size are plotted on a logarithmic chart, against the number receiving them, the resulting line will be a straight line. It was later found that Pareto's curve holds equally well for many other types of distribution. Professor George Kingsley Zipf of Harvard University in a recent study entitled "National Unity and Disunity" applies the same general principle to population study. This law would suggest, for instance, that if the population of the largest city in any country is taken as a unit, the second city in that country will have a population approximately half that of the largest city. The third city in size should have a population about one-third that of the largest city; the tenth city in size, a population about one-tenth the size of the largest city; and the fifty-seventh city in size, a population of approximately 1/57 of the largest city. In other words, if this general principle applies, it is possible to estimate roughly the population of any community if the population of the largest community is known and the relative ranking of the community in question.

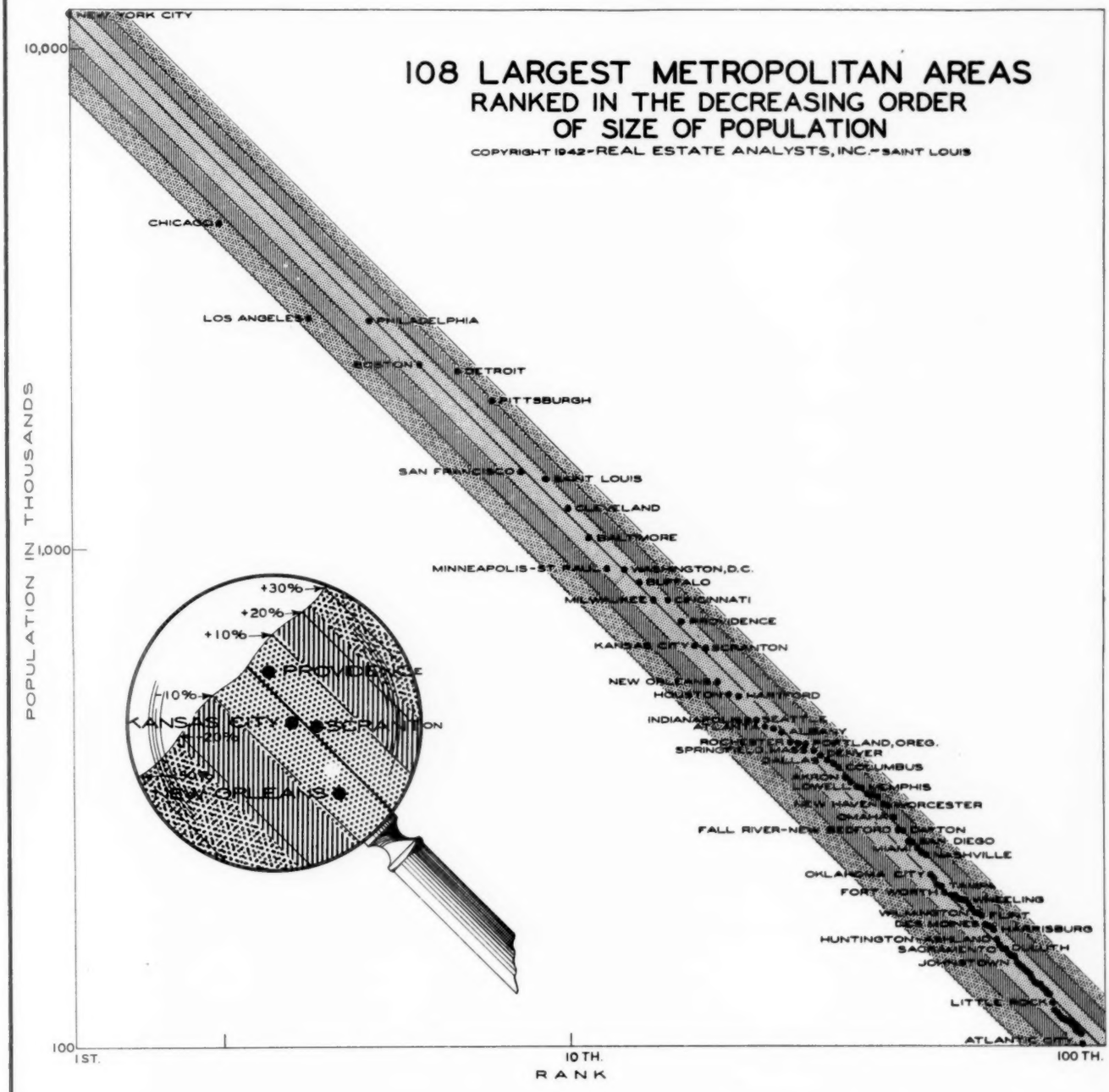
The table below shows the population of the fifteen leading U. S. cities according to the 1940 Census, together with the population which Pareto's law would indicate. While there are variations, the variations are not great, and studies of all census enumerations from 1790 to 1940 indicate that the same regular distribution has been present to a greater or less extent in all enumerations.

Population of 15 Leading U.S. Cities, 1940

City	Rank	Actual population, 1940*	What the "pattern" suggests
New York.	1	7,454,995	** 7,454,995
Chicago	2	3,396,808	3,727,497
Philadelphia.	3	1,931,334	2,484,998
Detroit	4	1,623,452	1,863,748
Los Angeles	5	1,504,277	1,490,999
Cleveland	6	878,336	1,242,499
Baltimore	7	859,100	1,064,999
St. Louis	8	816,048	931,874
Boston.	9	770,816	828,332
Pittsburgh.	10	671,659	745,499
Washington.	11	663,091	677,726
San Francisco	12	634,536	621,249
Milwaukee	13	587,472	573,539
Buffalo	14	575,901	532,499
New Orleans	15	494,537	496,999

* U. S. Bureau of Census figures.
** Constant

The chart on the page opposite shows greater variations than the table above. This chart is based not on the population of the various cities but on



the total population of the metropolitan areas defined by the Census. It seems to us that this is a far better test, as the Census includes in each metropolitan area all of the contiguous suburbs. By using metropolitan areas we get away from the difficulty of cities which in some cases have enlarged their city limits over wide areas and other communities where city limits have not been changed for many years.

The surprising thing about these studies of population sizes is not the variation from the ideal pattern but the fact that a pattern exists at all. Why, for instance, do we not find after the first ten cities in size a large number of cities all having approximately the same population? Would we not naturally assume that there are many cities in the United States approximately the same size?

The chart above clearly indicates that such is not the case.

RESIDENTIAL RENTS AND CONSTRUCTION COSTS

IN the As I See It Bulletin of November 25, 1941, we said, "At any given time the level of residential rents in any locality is determined by the relationship of supply and demand in that community, but over the long period it is determined by the monthly cost of ownership of new additions to the housing supply." The long chart shown to the right is an attempt to test this statement by the actual fluctuations of dwelling rents in Greater St. Louis over a ninety-year period.

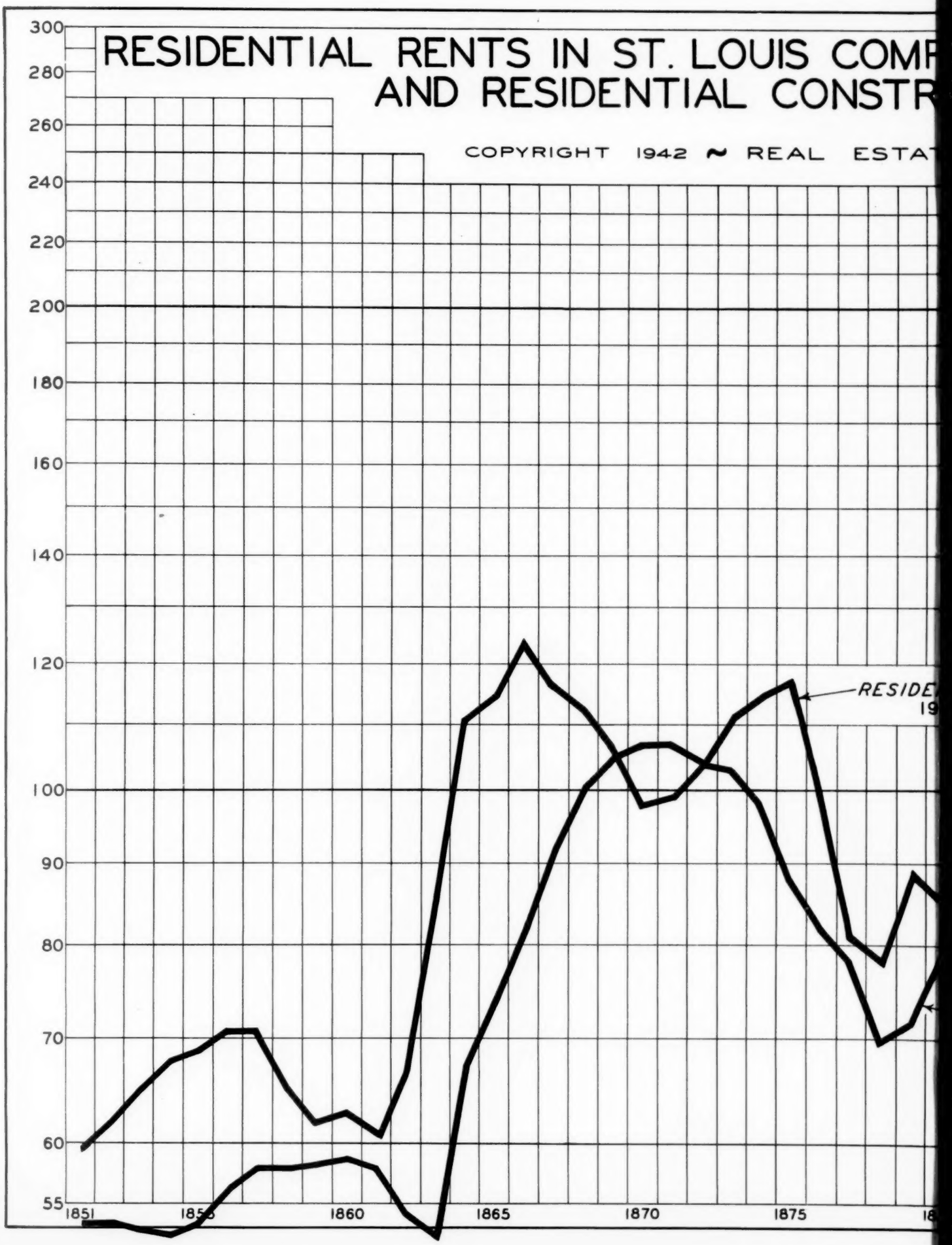
The index of residential rents was compiled for the period from 1851 to 1880 from a study published in 1886 as a part of the Tenth Census of the United States. This study attempted to trace rental fluctuations in a number of cities of the United States, of which St. Louis was one. Real Estate Analysts, Inc., has compiled figures from 1868 to the present on residential rents in St. Louis, and this series was combined with the Census series for the earlier years, with an overlap of twelve years. This chart constitutes the longest continuous rent series available on any city of the world.

On the chart to the right the fluctuations in residential rents are shown by the red line. The fluctuations in building material prices are shown by the solid black line. This line is based on the figures compiled by Warren and Pearson. From 1913 on the black dotted line shows the fluctuations in the actual construction cost - labor, materials and overhead - of a six-room standard frame residence built in St. Louis. This dotted line is added to the chart to show the variation between building material prices and actual cost. It is unfortunate that actual building costs are not available in the period prior to 1913.

Even a casual glance at this chart reveals that over the long period building costs and residential rents have kept rather closely in step. In the initial period, prior to 1864, it will be noticed that the level of rents was below the level indicated by building material prices. This may have been due to several different causes. The first and foremost explanation would be the fact that the United States was in a real estate depression from 1856 to 1866 (see any of the long charts published by Real Estate Analysts, Inc.). During this period very little building was done, with interest rates lower than they were in the succeeding war period. In a period of real estate depression it is quite natural for rents to be below the level expected from building costs. Coming back to our original principle, at any given time the level of residential rents depends solely on the supply and demand for space. In the depression period, because of doubling up of families together caused by economic distress, the demand shrinks and rents fall. In 1862 however building costs started rising rapidly, with a further drop in the volume of new building. By 1865 building costs were quite high, and the demand had reached the point where some new building had to be done. Accordingly, the monthly cost of the new units which must be added to the supply in order to take care of the demand has the effect of starting to raise rents and values; and it will be noticed that during the next few years rents and values rise until they exceed slightly the level of building costs as shown by the line giving wholesale building material prices.

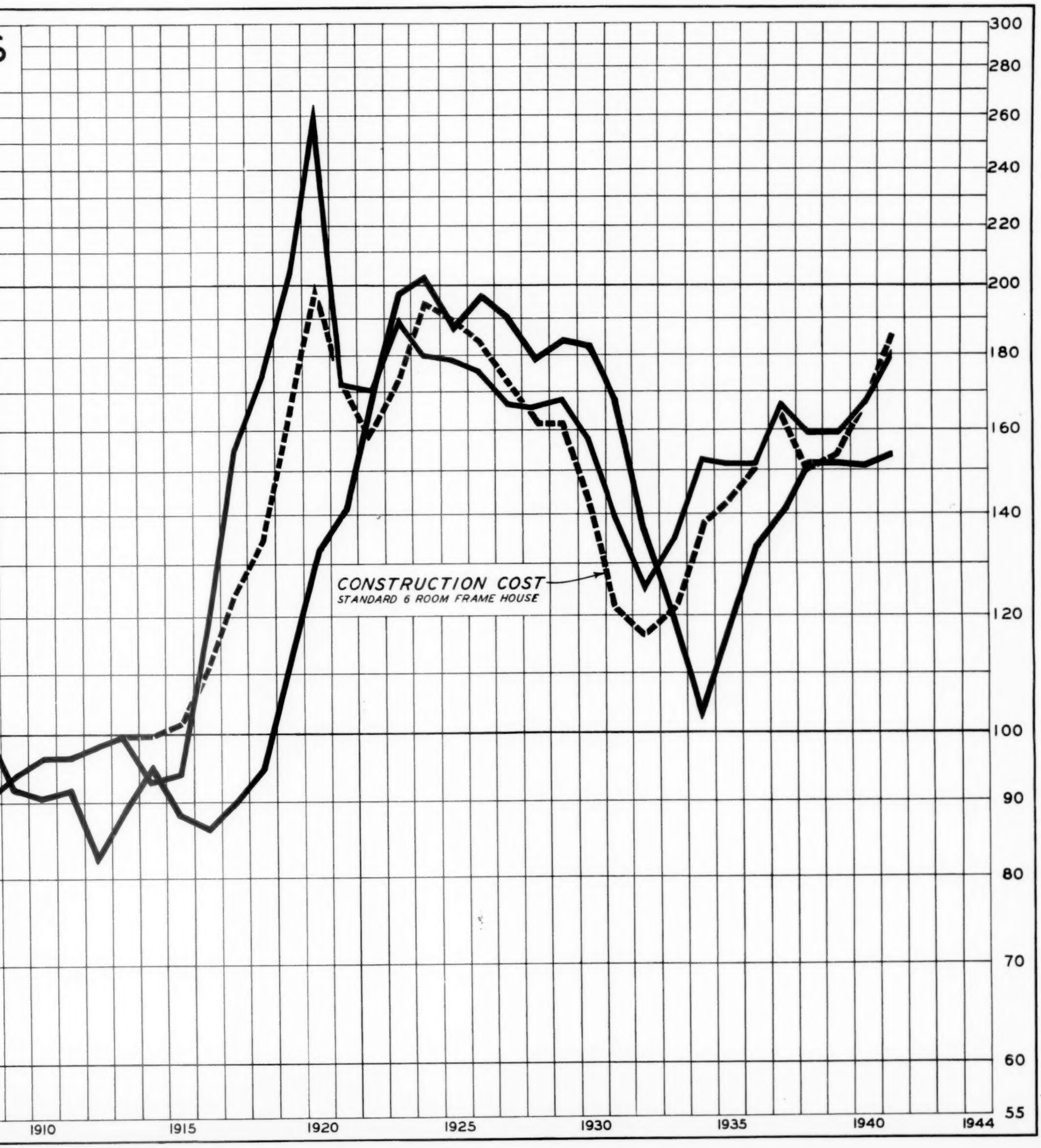
In the early 70's when rents and values were above replacement costs the chart on pages 60-70 shows that St. Louis real estate was in a boom period.

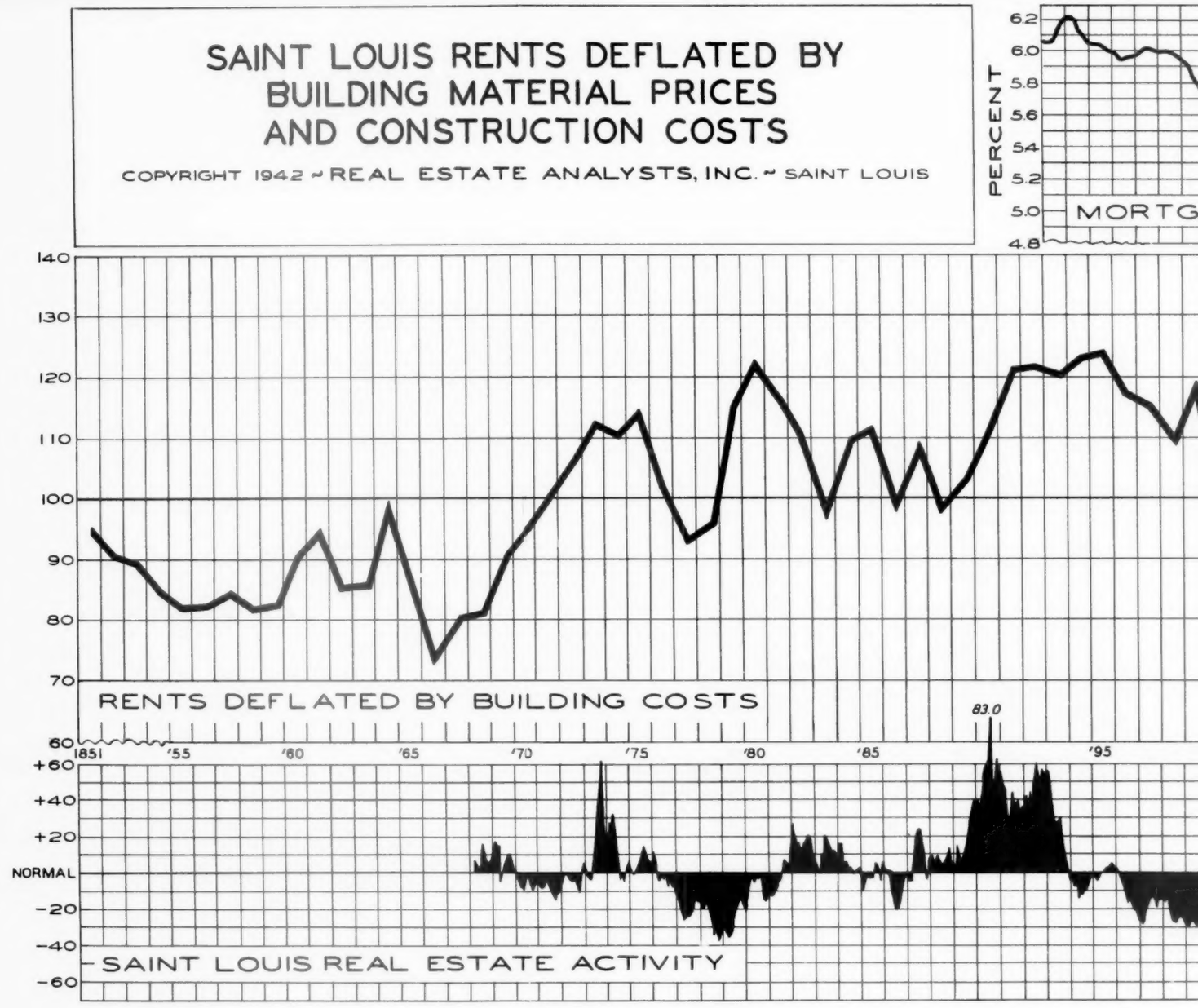
(Continued on Page 60.)


RESIDENTIAL RENTS IN ST. LOUIS COMP
AND RESIDENTIAL CONSTR
COPYRIGHT 1942 ~ REAL ESTA
RESIDE
19
300
280
260
240
220
200
180
160
140
120
100
90
80
70
60
55
1851
1860
1865
1870
1875

UIS COMPARED WITH BUILDING MATERIAL PRICES
CONSTRUCTION COSTS IN ST. LOUIS

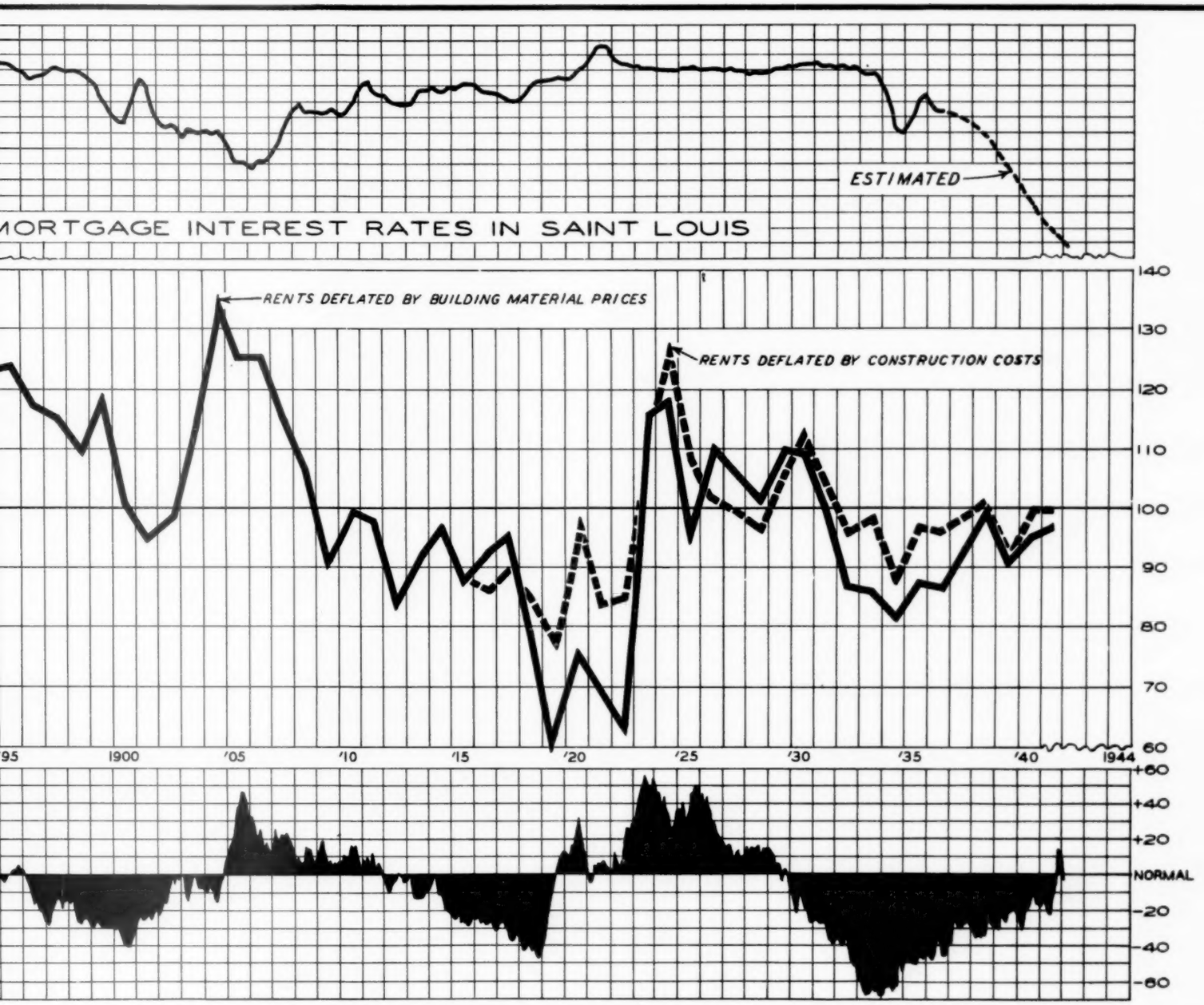
REAL ESTATE ANALYSTS, INC. ~ SAINT LOUIS


CONSTRUCTION COST
STANDARD 6 ROOM FRAME HOUSE
300
280
260
240
220
200
180
160
140
120
100
90
80
70
60
55
1910
1915
1920
1925
1930
1935
1940
1944



In other words, during this period demand exceeded supply, which accounts for the high level of rents. The collapse of the stock market however in the latter part of 1873 and the passage of the Resumption Act in 1875 ushered in a new depression in real estate, with a rapid shrinking of demand. As a result the level of rents and values dropped quickly into a closer agreement with the building cost levels as indicated by the building material price line. By the late 80's a new boom was getting under way, followed by the depression of the 90's. This depression of the 90's lasted until 1904 in St. Louis, and it will be noticed that immediately following it rentals rose above the cost line as we would expect them to in a boom period.

During the first World War period real estate was depressed in St. Louis, with a corresponding low level of residential rents and values. In 1915, however, construction costs started rising again, deterring the volume of new building which would be necessary to keep the supply and demand in harmony. By 1920 a space shortage had developed, and rents and values on residential properties rose rapidly until they passed the level of construction costs in the early 20's. In other words, by this time rents and values had returned to the



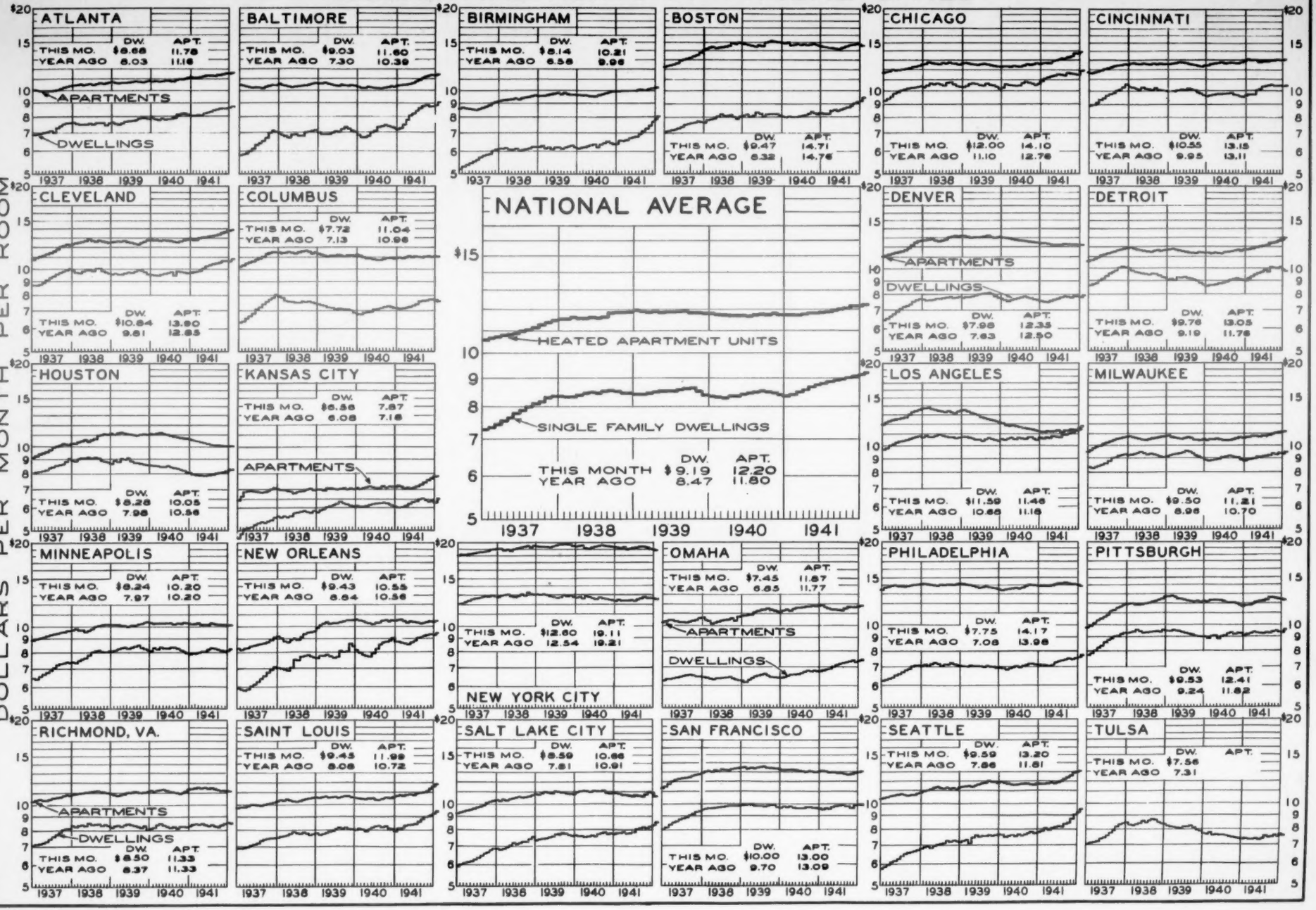
point where the rental value of space was determined by the monthly cost of ownership of new additions which must be made to the supply to take care of the demand.

The period in the 20's in which rents were above construction cost levels was a period of great real estate activity in St. Louis. The fact that the demand was exceeding the supply accounted for the high levels of rents and values.

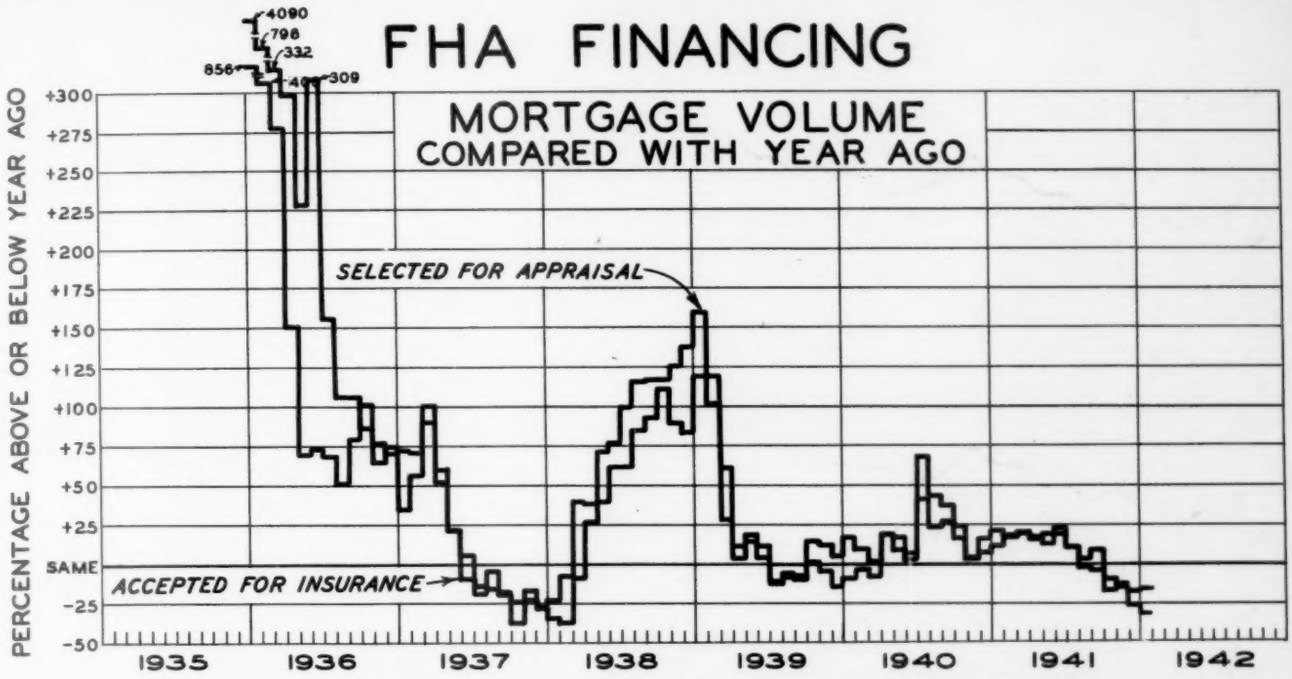
The chart above shows residential rents in St. Louis deflated by dividing them by the wholesale building material prices of two years before. It will be noticed that the resulting line reproduces in a rough fashion the cycles of real estate activity. Along the top of this chart is shown the average mortgage interest rate for the period during which the figures are available for St. Louis. The low interest rates of the present have reduced the monthly cost of ownership of the additions which have been added to the housing supply and accordingly rents and values have not risen as much as they otherwise would as a result of the increase in construction costs.

RESIDENTIAL RENTS IN TYPICAL CITIES

DOLLARS PER MONTH PER ROOM



FHA FINANCING



THE REAL ESTATE ANALYST INDEX OF RESIDENTIAL RENTS

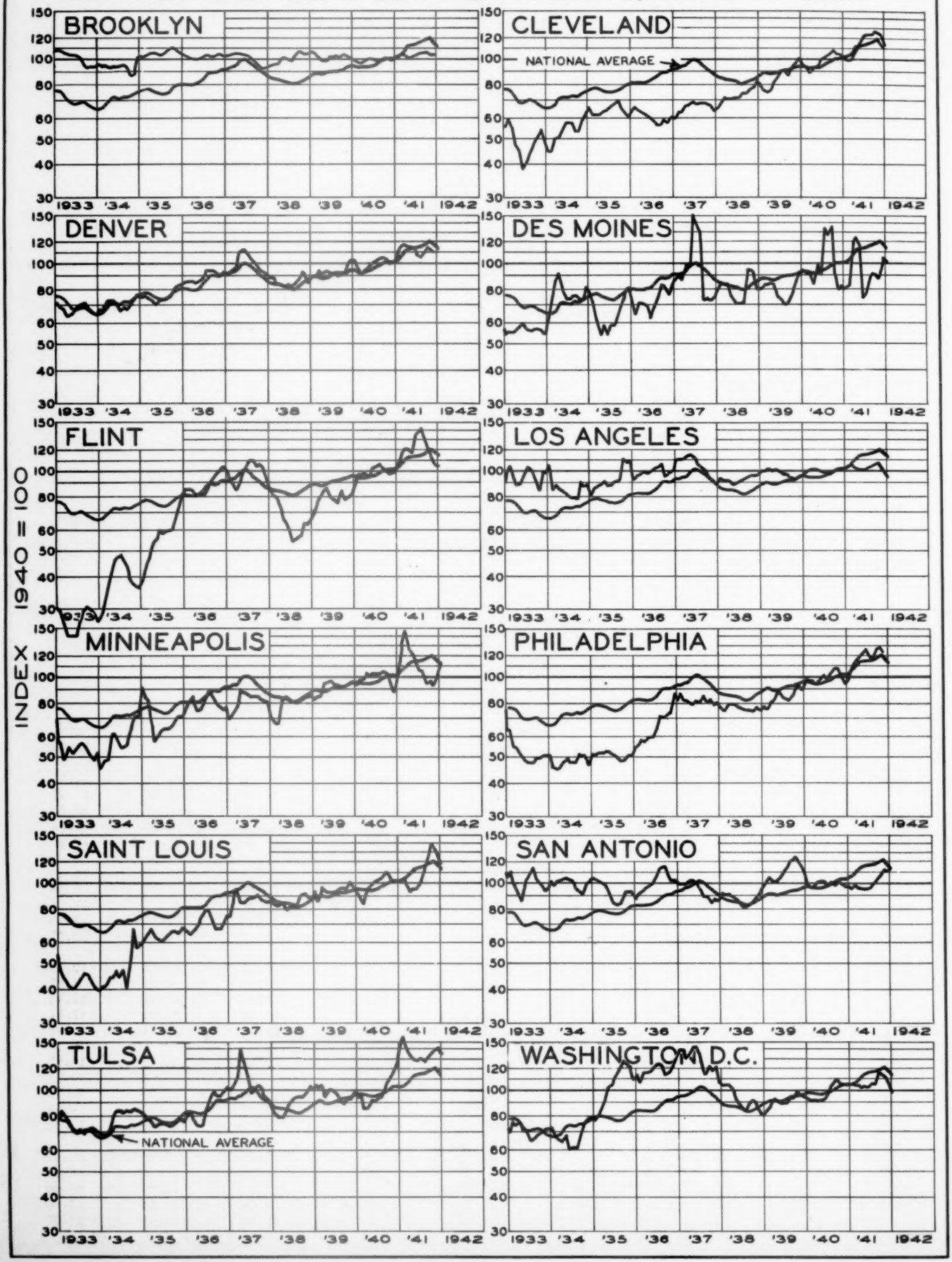
The table below shows advertised residential rent figures. All rents are expressed in dollars per month per room. This makes possible a comparison of rent levels between different cities, and in the same city between heated and unheated units. The twenty-six cities selected are typical cities scattered from coast to coast.

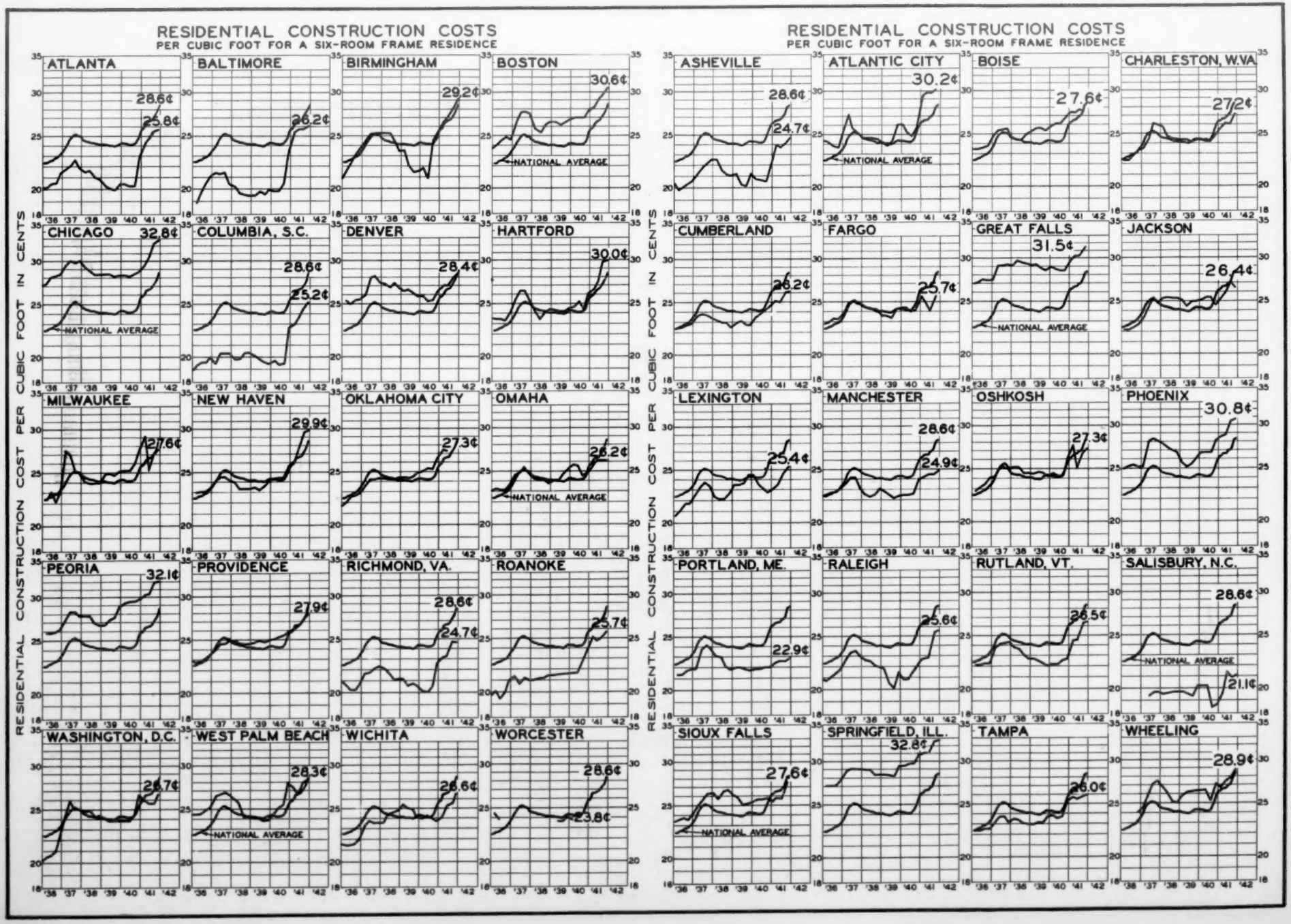
The index was computed by using a moving average for a two-year period with a heavier weighting on the last six months.

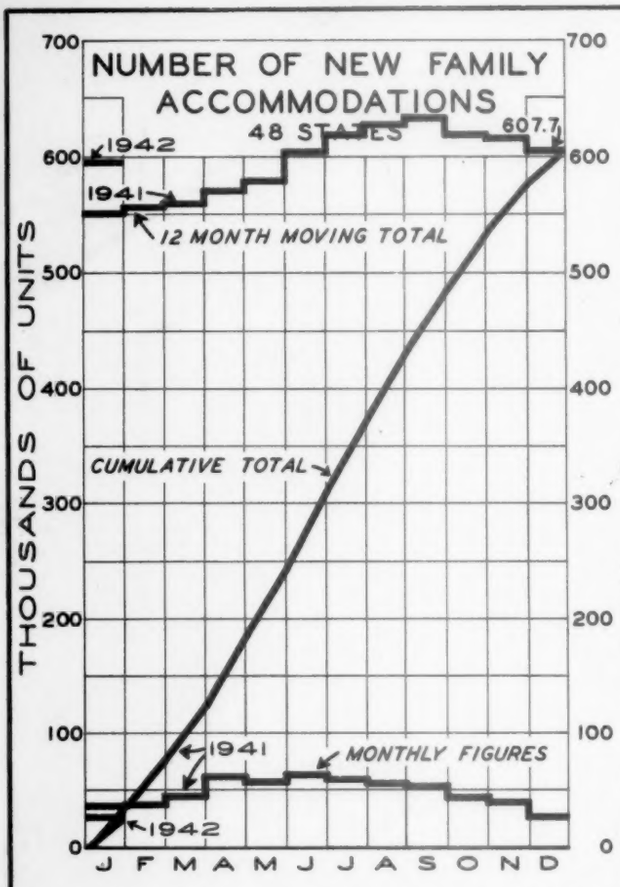
THE REAL ESTATE ANALYST INDEX OF RESIDENTIAL RENTS

	1941												1942			
	July		Aug.		Sept.		Oct.		Nov.		Dec.		Jan.		Feb.	
	Res.	Apt.	Res.	Apt.	Res.	Apt.	Res.	Apt.	Res.	Apt.	Res.	Apt.	Res.	Apt.	Res.	Apt.
National Index	$8.78	$11.90	$8.86	$11.96	$8.94	$12.01	$8.98	$12.06	$9.01	$12.10	$9.05	$12.19	$9.10	$12.19	$9.19	$12.20
Atlanta	8.32	11.30	8.44	11.44	8.49	11.43	8.49	11.53	8.54	11.60	8.57	11.70	8.61	11.70	8.68	11.78
Baltimore	8.46	10.91	8.61	11.00	8.86	11.18	8.91	11.30	8.80	11.40	8.81	11.50	8.86	11.49	9.03	11.60
Birmingham	6.80	10.01	6.97	10.03	7.15	10.03	7.35	10.02	7.54	10.09	7.75	10.13	7.88	10.15	8.14	10.21
Boston	8.65	14.61	8.73	14.69	8.86	14.91	8.98	14.96	9.04	14.98	9.14	15.00	9.22	14.90	9.47	14.71
Chicago	11.67	13.20	11.61	13.42	11.86	13.40	11.83	13.58	11.80	13.71	11.78	13.94	12.00	13.90	12.00	14.10
Cincinnati	10.42	12.99	10.48	13.00	10.60	13.01	10.59	13.10	10.59	13.11	10.59	13.16	10.55	13.12	10.55	13.15
Cleveland	10.36	13.29	10.46	13.42	10.53	13.52	10.64	13.61	10.73	13.73	10.73	13.80	10.68	13.85	10.84	13.90
Columbus	7.54	11.03	7.70	11.02	7.75	11.01	7.76	11.06	7.80	11.10	7.80	11.02	7.74	11.11	7.72	11.04
Denver	7.84	12.40	7.91	12.40	7.90	12.41	7.86	12.42	7.89	12.41	7.89	12.40	7.86	12.36	7.98	12.35
Detroit	9.96	12.19	9.73	12.32	10.10	12.58	10.02	12.62	10.00	12.66	10.03	12.79	9.93	12.91	9.76	13.05
Houston	7.91	10.20	7.97	10.19	8.02	10.19	8.04	10.19	8.09	10.15	8.16	10.12	8.28	10.08	8.28	10.05
Kansas City	6.46	7.19	6.51	7.23	6.53	7.35	6.48	7.48	6.43	7.63	6.47	7.75	6.42	7.86	6.56	7.87
Los Angeles	10.91	11.30	10.98	11.26	10.99	11.30	11.03	11.30	11.19	11.48	11.36	11.45	11.45	11.42	11.59	11.46
Milwaukee	9.09	10.89	9.20	10.88	9.25	10.98	9.41	11.13	9.38	11.16	9.43	11.20	9.42	11.21	9.50	11.21
Minneapolis	8.25	10.23	8.29	10.35	8.21	10.30	8.20	10.26	8.15	10.25	8.10	10.26	8.11	10.21	8.24	10.20
New Orleans	8.91	10.40	9.05	10.38	9.07	10.33	9.14	10.36	9.25	10.41	9.30	10.48	9.25	10.45	9.43	10.55
New York	12.40	19.16	12.60	19.35	12.70	19.39	12.77	19.39	12.69	19.29	2.70	19.21	12.65	19.18	12.60	19.11
Omaha	7.24	11.50	7.30	11.45	7.36	11.60	7.43	11.71	7.46	11.71	7.41	11.75	7.43	11.82	7.45	11.87
Philadelphia	7.38	14.26	7.46	14.25	7.50	14.30	7.58	14.25	7.54	14.21	7.59	14.21	7.60	14.19	7.75	14.17
Pittsburgh	9.28	12.36	9.31	12.58	9.30	12.69	9.40	12.69	9.44	12.60	9.42	12.56	9.38	12.49	9.53	12.41
Richmond	8.36	11.50	8.45	11.53	8.34	11.43	8.30	11.36	8.41	11.30	8.49	11.30	8.55	11.30	8.50	11.33
Saint Louis	8.60	10.89	8.91	11.00	9.03	11.03	9.09	11.10	9.15	11.29	9.14	11.48	9.21	11.67	9.45	11.99
Salt Lake City	7.91	10.70	8.07	10.80	8.10	10.70	8.19	10.69	8.17	10.90	8.22	11.01	8.30	10.90	8.59	10.66
San Francisco	9.91	12.98	9.95	12.98	9.90	12.91	9.90	12.90	9.85	12.93	9.99	12.99	10.00	13.00	10.00	13.00
Seattle	8.20	12.00	8.17	12.13	8.41	12.30	8.53	12.57	8.87	12.79	9.04	13.00	9.22	13.10	9.59	13.20
Tulsa	7.30		7.48		7.46		7.47		7.53		7.51		7.61		7.56	

REAL ESTATE TRANSFERS IN PRINCIPAL CITIES




RESIDENTIAL CONSTRUCTION COSTS
PER CUBIC FOOT FOR A SIX-ROOM FRAME RESIDENCE
RESIDENTIAL CONSTRUCTION COST PER CUBIC FOOT IN CENTS
ATLANTA
28.6¢
25.8¢
BALTIMORE
26.2¢
BIRMINGHAM
29.2¢
BOSTON
30.6¢
NATIONAL AVERAGE
CHICAGO
32.8¢
NATIONAL AVERAGE
COLUMBIA, S.C.
28.6¢
25.2¢
DENVER
28.4¢
HARTFORD
30.0¢
MILWAUKEE
27.6¢
NEW HAVEN
29.9¢
OKLAHOMA CITY
27.3¢
OMAHA
26.2¢
NATIONAL AVERAGE
PEORIA
32.1¢
PROVIDENCE
27.9¢
RICHMOND, VA.
28.6¢
24.7¢
ROANOKE
25.7¢
WASHINGTON, D.C.
26.7¢
WEST PALM BEACH
28.3¢
NATIONAL AVERAGE
WICHITA
26.6¢
WORCESTER
28.6¢
23.8¢
ASHEVILLE
28.6¢
24.7¢
ATLANTIC CITY
30.2¢
NATIONAL AVERAGE
BOISE
27.6¢
CHARLESTON, W.VA.
27.2¢
CUMBERLAND
26.2¢
FARGO
25.7¢
GREAT FALLS
31.5¢
NATIONAL AVERAGE
JACKSON
26.4¢
LEXINGTON
25.4¢
MANCHESTER
28.6¢
24.9¢
OSHKOSH
27.3¢
PHOENIX
30.8¢
PORTLAND, ME.
22.9¢
RALEIGH
25.6¢
RUTLAND, VT.
26.5¢
SALISBURY, N.C.
28.6¢
NATIONAL AVERAGE
21.1¢
SIOUX FALLS
27.6¢
NATIONAL AVERAGE
SPRINGFIELD, ILL.
32.8¢
TAMPA
26.0¢
WHEELING
28.9¢
'36 '37 '38 '39 '40 '41 '42

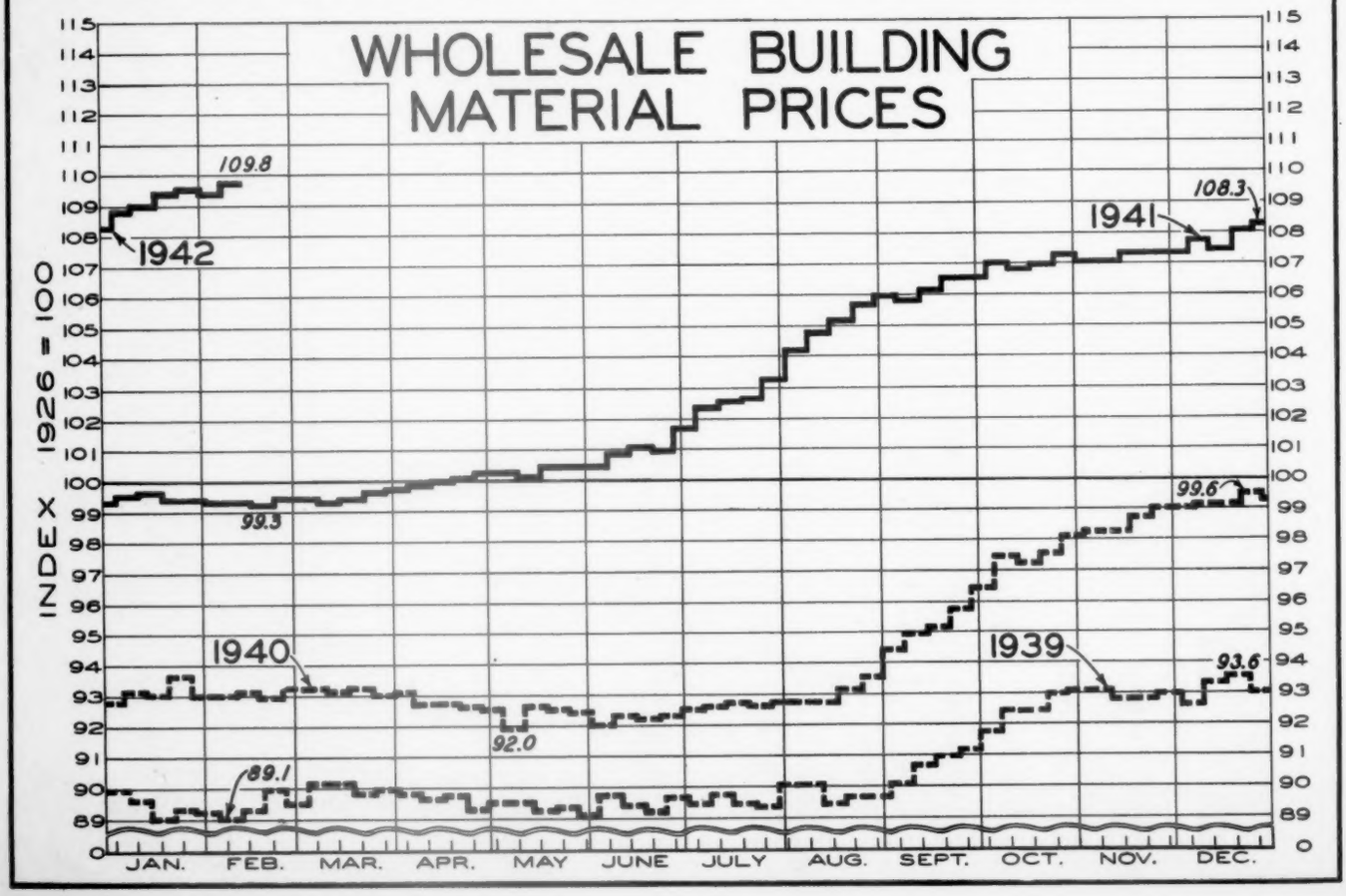


DWELLING UNITS CONSTRUCTED IN 48 STATES
(in thousands of units)

	Monthly			Cumulative			12 Month Moving Total		
	1940	1941	1942	1940	1941	1942	1940	1941	1942
January	24.3	37.7	28.3	24.3	37.7	28.3	459.2	553.4	598.3
February	34.8	39.3		59.1	77.0		464.8	557.9	
March	43.4	47.8		102.5	124.8		468.8	562.3	
April	52.1	64.1		154.6	188.9		484.3	574.3	
May	51.2	59.3		205.8	248.2		485.9	582.4	
June	40.3	66.4		246.1	314.6		485.6	608.5	
July	49.8	61.8		295.9	376.4		497.3	620.5	
August	49.9	59.2		345.8	435.6		501.0	629.8	
September	52.2	57.3		398.0	492.9		517.5	634.9	
October	59.9	46.5		457.9	539.4		541.3	621.5	
November	41.4	40.1		499.3	579.5		540.2	620.2	
December	40.7	28.2		540.0	607.7		540.0	607.7	

THE number of new family accommodations built in all non-farm communities of the 48 states and the District of Columbia is shown in the table above and on the chart to the left. Cumulative totals and twelve month moving totals for 1940 (black) and 1941 (red) are given..

Wholesale building material prices as compiled by the Bureau of Labor Statistics are charted by weeks on the chart below. During October and November, building material prices moved sideways. Since early in December these prices have been gradually increasing. Because of the price ceilings which have been imposed, however, we do not believe that this is the beginning of a rapid rise such as took place in the summer of 1941.



FEBRUARY 27
1942

EXECUTIVE DIGEST

OF THE CURRENT REAL ESTATE ANALYST REPORTS

REAL ESTATE ANALYSTS, INC.

Real Estate Economists, Appraisers and Counselors

Roy Wenzlick
Editor

VOLUME XI

REAL ESTATE ACTIVITY

THE volume of real estate sales activity averaged throughout the United States hit its highest point in October of last year at 23.6% above our computed normal. Each succeeding month has shown a drop on a seasonally corrected basis, with November 19.5% above, December 18.5%, and January 15.3% above the computed normal. In comparison however with the Januarys of preceding years, January 1942 was quite satisfactory. In 1941 real estate activity was 2.6% above the computed normal, and in 1940 it was 8.1% below the computed normal. In spite of all the disturbing influences of the war, January 1942 was better than any January since 1928.

REAL ESTATE MORTGAGES

We have been predicting the last few months rather considerable drops in the volume of mortgage financing. This is due to the fact that mortgage volume depends partially on new construction, and with new construction badly off because of priorities it is quite natural that real estate mortgage activity would drop. During January mortgage activity was 35% below normal, in contrast with 28.7% in December and a high last fall of 22.2% below normal. The volume of mortgage financing has never recovered in comparison with the levels of the twenties, as during the entire period from 1933 to the present all of the financing has been on relatively small residential buildings. Until large buildings come back into the picture in volume the high levels of the past will not be repeated.

NEW DWELLING UNITS

In January 28,300 new dwelling units were started in contrast with 37,700 in January 1941. This is a decrease of almost exactly 25%. It is, however, a slightly larger number than those started in December 1941. New building of course will be very spotty during 1942, proceeding at rapid rates in some defense areas, with practically no building of any kind going on in non-defense areas other than farms. The building of farm residences will exceed a year ago by from 8% to 10%, while the building of farm service buildings will exceed the figures of a year ago by possibly 15% to 20%. One of the difficulties holding back new building in the past month or so has been the necessity of an immense amount of clerical work necessary to secure priorities. As contractors become more familiar with the confusing details, building will increase.

BUILDING COSTS

The center spread in this report shows the cost of building a standard six-room frame house in St. Louis. This is the only cost figure of its kind in the United States that refigures as nearly as possible the same house from 1913 to the present. It will be noticed that in February the cost has advanced to $7682. This is an increase of $69 over the January figure and of $893 over

BUILDING COSTS OF A STANDARD SIX ROOM FRAME RESIDENCE BUILT IN ST. LOUIS

THE general description of this six-room colonial frame residence is as follows: the house proper has a cubic content of 23,792 cubic feet, and the attached garage of 1,575 cubic feet - a total cubic content of 25,376 cubic feet. This is considered a good, average house in the medium price class.

In brief the plans and specifications call for concrete foundations, concrete basement and garage floors; concrete slabs for front and rear stoops; frame exterior walls with 3/4" x 10" redwood siding, with stucco gable ends; three-coat plaster walls; oak flooring; pine B & B trim; 1 3/8" six-panel #1 pine doors; tile wainscote and floors in bathroom and lavatory; two kitchen cabinets; 266 lbs. asphalt shingle roof; modern bathroom fixtures; hot water heat; modern electrical installation; insulation in exterior walls and second floor ceiling.

The costs given in the accompanying table cover a complete structure except for the following items:

Walks and drives	Hot water heater and hot water tank
Electrical fixtures	Decoration to interior walls and ceilings

Several items of construction underwent changes during the twenty-seven years for which costs are given. Prior to 1921 a leg tub and wall lavatories were used instead of the full roll tub and pedestal type lavatory now specified. Prior to 1924, tile walls in bathroom and lavatory were omitted. Prior to 1930, insulation of both exterior walls and second floor ceiling was omitted. Copper has been in and out.

Costs are grouped into four classifications of material, four of labor and three of overhead. A further breakdown of these groups is given in detail below. Columns of the table are numbered, and a brief description of the items included in each is given in the paragraphs below. Paragraphs are numbered to correspond with the columns described. Building material costs are printed in black; the correspondinglabor items are given in red. Overhead items - columns 18, 19 and 20 - are also printed in black.

* Nolabor items are shown in column 13, Building Hardware, as they have already been included in column 6, Mill Work.

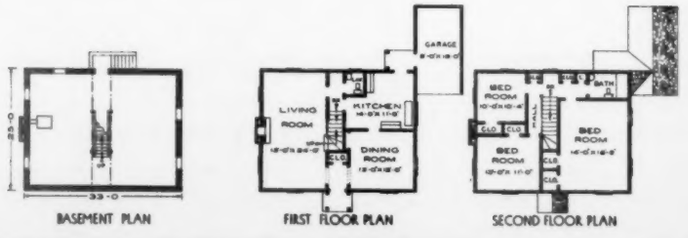
Group A:
(1) Mason Materials: Cement, sand, gravel, quick lime, hydrated lime, hard wall plaster,face and common brick,fire brick,flue lining.Labor .
(2) Tile Materials: 4¼ x 4¼ wall tile, ceramic floor tile, cap and base. Labor .
(3) TOTAL OF GROUP A: Materials. Labor .

Group B:
(4) Unfinished Lumber: Columns, beams, floor and ceiling joists, interior and exterior studs, rafters, bracing, etc. Labor .
(5) Finished Lumber: Sub-flooring, sheathing, beveled siding, finished floors, asphalt shingle roofing, roofing felt, tar paper, shutters, etc. Labor .
(6) Mill Work: Windows, doors, trim, kitchen cabinet, stairs.Labor .
(7) TOTAL OF GROUP B: Materials. Labor .

Group C:
(8) Heating: Boiler, insulating jackets, fittings, tools, pipes, connections, valves and radiation. Labor .
(9) Plumbing: Soil pipes and connections, stack, water pipe and connections, lead oakum and bathroom fixtures; hot water heater and tank to be furnished by others. Labor .
(10) TOTAL OF GROUP C: Materials. Labor .

Group D:
(11) Sheet Metal: Galv. iron gutters, downspouts, flashing. Labor..
(12) Electrical Work: Main switch,BX cable, switch boxes, receptacles, transformer, etc. No fixtures included. Labor .
(13) Nails and Hardware: Common and wire nails, bolts, damper, ash doors, finish hardware.*
(14) Paint Materials: White lead, linseed oil, turpentine. Labor..
(15) Misc.: Metal & wood laths, corner bead, insulation. Labor..
(16) TOTAL OF GROUP D: Materials. Labor .
(17) TOTAL COSTS: Materials. Labor .

Group E:
(18) Overhead and profit of subcontractors in plastering, metal work, heating, plumbing, electrical work and tile work.
(19) General contractor's profit.
(20) Missouri sales tax (now 2% on materials), old age and unemployment tax (federal and state), liability and employees'compensation insurance, fire and tornado insurance, completion bond.
(21) TOTAL OF GROUP E: Materials. Labor .
(22) TOTAL CONSTRUCTION COST.



BUILDING COSTS OF A STANDARD SIX ROOM FRAME RESIDENCE BUILT IN ST. LOUIS

YEAR	GROUP A (1)		(2)		(3) TOTAL		GROUP B (4)		(5)		(6)		(7) TOTAL		GROUP C (8)		(9)		(10) TOTAL		GROUP D (11)		(12)		(13)		(14)		(15)		(16) TOTAL		(17) TOTAL		GROUP E (18)	(19)	(20)	(21) TOTAL		TOTAL (22) TOTAL
1913	$343	$388	$ 24	$ 13	$367	$401	$218	$101	$428	$134	$350	$121	$ 996	$356	$152	$136	$231	$110	$383	$246	$65	$12	$36	$49	$59	*	$16	$64	$51	$18	$227	$142	$1973	$1144	$248	$337	$132	$716	$3833
1914	362	388	24	13	386	401	212	101	415	134	349	121	976	356	147	136	248	110	395	246	59	12	32	49	59		16	64	50	18	216	142	1973	1144	248	337	132	716	3833
1915	360	388	24	13	384	401	189	108	373	145	329	131	891	385	152	144	249	116	401	260	68	12	38	52	64		17	69	48	19	235	153	1911	1199	257	337	135	729	3839
1916	366	396	24	13	390	408	224	108	438	145	363	131	1025	385	203	144	309	116	512	260	101	12	55	52	86		22	69	59	19	323	153	2250	1206	295	375	142	812	4269
1917	456	413	25	14	481	426	258	109	500	146	396	132	1154	387	244	152	359	122	603	274	108	12	59	54	110		26	69	69	19	372	156	2610	1243	325	418	152	896	4749
1918	539	421	25	15	564	436	292	118	570	158	449	143	1311	420	322	152	359	124	681	276	95	14	52	54	118		30	75	73	21	368	165	2924	1296	346	457	163	965	5185
1919	624	453	25	15	649	469	519	128	1008	170	729	154	2256	452	290	160	349	130	639	290	83	15	45	57	113		31	81	112	23	384	176	3928	1386	342	566	187	1095	6409
1920	742	463	28	17	770	480	607	183	1189	243	1030	220	2826	646	305	184	372	150	677	334	83	21	46	66	143		36	116	132	32	440	235	4713	1695	366	677	227	1270	7678
1921	674	501	25	18	699	519	479	188	920	250	506	225	1905	663	273	192	460	156	733	348	64	22	35	69	94		30	119	104	33	327	243	3664	1772	372	581	215	1168	6604
1922	609	506	25	18	634	524	362	174	703	232	571	209	1636	615	258	204	433	166	691	370	64	20	35	73	79		28	111	81	31	287	235	3248	1744	370	536	205	1111	6102
1923	633	576	25	21	658	597	410	200	793	268	551	242	1754	711	267	227	430	184	697	411	70	23	38	81	94		28	128	90	36	320	268	3429	1987	407	582	228	1218	6634
1924	618	703	251	108	869	811	401	246	779	328	492	296	1672	870	274	277	388	224	662	502	64	28	35	100	97		35	156	87	44	318	328	3521	2510	527	656	274	1456	7487
1925	606	684	251	108	857	791	375	251	732	335	472	302	1579	888	273	255	381	207	654	462	68	29	37	92	89		37	159	83	45	314	325	3401	2466	508	638	267	1413	7280
1926	566	653	251	108	817	760	379	240	732	320	432	288	1543	848	264	244	381	197	645	441	69	27	37	87	86		36	152	83	43	311	310	3316	2359	499	617	254	1370	7045
1927	565	621	251	108	816	729	354	228	715	304	358	275	1427	808	251	184	395	159	646	343	67	26	37	66	84		33	145	80	41	301	277	3190	2157	469	582	237	1288	6635
1928	563	541	208	97	771	639	406	184	644	244	377	220	1427	648	261	184	382	151	643	335	71	21	39	66	85		31	116	74	32	300	237	3141	1858	438	544	213	1194	6194
1929	565	541	185	97	750	639	360	184	687	244	384	220	1431	648	270	184	385	151	655	335	82	21	45	66	89		33	116	71	32	320	237	3156	1858	438	545	213	1195	6210
1930	474	422	185	97	659	519	340	135	655	181	312	164	1307	481	251	140	341	114	592	254	71	15	39	50	72		33	87	211	24	426	177	2984	1431	380	479	175	1034	5449
1931	411	342	155	57	566	400	313	108	594	145	254	131	1161	385	226	112	322	91	548	203	58	12	32	40	61		31	70	198	39	380	161	2655	1150	317	412	146	875	4680
1932	438	342	139	51	577	394	268	108	532	145	269	131	1069	385	210	112	286	91	496	203	50	12	28	40	60		28	70	199	39	365	161	2507	1143	295	395	142	832	4482
1933	457	342	130	51	587	394	355	108	562	145	344	131	1261	385	208	112	270	91	478	203	52	12	28	40	54		26	70	214	39	374	161	2700	1143	291	413	146	850	4693
1934	540	342	122	51	662	394	439	108	713	145	494	131	1646	385	234	112	279	91	513	203	55	12	30	40	63		26	70	222	39	396	161	3217	1143	299	466	154	919	5279
1935	508	422	111	67	619	488	399	135	638	181	523	164	1560	481	236	140	292	114	528	254	43	15	24	50	62		26	87	229	47	384	200	3091	1423	300	481	174	956	5469
1936	506	490	111	67	617	557	364	159	655	209	494	188	1513	557	255	160	301	131	556	291	50	19	28	57	59		27	98	221	53	385	228	3071	1633	344	505	239	1087	5791
1937	503	512	111	67	614	579	395	186	742	245	578	221	1715	652	247	160	326	141	573	301	54	22	29	57	64		31	104	226	53	404	236	3306	1768	363	544	310	1217	6291
Ja 1938	500	428	103	67	603	495	369	162	693	210	591	189	1653	561	255	160	313	134	568	294	48	19	26	57	68		29	88	223	42	394	207	3218	1557	344	512	315	1171	5916
Ap 1938	500	428	103	67	603	495	343	162	633	210	592	189	1568	561	231	160	305	134	536	294	45	19	25	57	68		27	88	222	42	387	207	3094	1557	335	490	310	1135	5786
J1 1938	516	428	103	67	619	495	343	162	631	210	549	169	1523	540	239	160	285	134	524	294	45	19	25	57	64		27	88	221	42	382	207	3048	1536	328	489	301	1119	5703
O 1938	516	417	103	67	619	483	343	142	631	185	550	167	1524	494	239	160	283	134	522	294	48	17	26	57	64		28	88	221	42	387	205	3052	1476	326	484	296	1106	5634
Ja 1939	515	417	103	77	618	494	353	142	642	185	525	167	1520	494	239	160	284	134	523	294	49	17	27	57	64		28	88	192	42	360	205	3021	1487	329	482	297	1107	5615
Ap 1939	510	561	103	77	613	638	345	164	644	219	509	198	1498	581	239	160	267	134	506	294	48	19	26	57	64		29	116	192	61	359	253	2976	1766	348	507	329	1184	5926
J1 1939	516	561	103	77	619	638	346	164	639	219	508	198	1493	581	239	160	271	131	510	291	46	19	26	57	64		29	116	191	61	356	253	2978	1763	346	507	329	1182	5923
O 1939	510	561	103	77	613	638	395	164	713	219	509	198	1617	581	239	160	285	131	524	291	52	19	29	57	65		30	116	193	61	369	253	3123	1763	353	522	335	1209	6096
Ja 1940	510	538	103	77	613	614	374	158	679	215	567	195	1600	567	236	160	282	131	518	291	58	17	32	57	65		30	93	193	61	378	229	3109	1702	352	516	327	1194	6005
Ap 1940	510	538	103	77	613	614	371	158	651	215	566	195	1588	567	236	160	285	131	521	291	63	17	35	57	65		30	93	193	61	386	229	3108	1702	352	516	327	1194	6004
J1 1940	510	538	103	77	613	614	371	158	651	215	566	195	1588	567	236	160	285	131	521	291	63	17	35	57	65		30	93	193	61	386	229	3108	1702	352	516	327	1194	6004
Ag 1940	510	556	103	77	613	633	415	158	735	215	604	195	1754	567	236	160	285	161	521	321	63	17	31	57	66		30	93	201	69	390	237	3278	1758	361	540	342	1242	6278
S 1940	510	556	145	77	655	633	448	158	736	215	604	195	1788	567	236	160	301	161	537	321	63	17	31	57	66		30	93	195	69	385	237	3368	1758	379	551	345	1274	6400
O 1940	510	542	145	86	655	628	494	162	763	218	628	197	1885	576	254	160	294	161	548	321	63	17	31	57	66		32	93	203	75	395	242	3483	1768	385	564	351	1300	6551
N 1940	510	542	145	86	655	628	493	162	805	218	646	197	1944	576	254	160	295	161	549	321	62	17	27	57	66		32	93	203	75	390	242	3538	1768	385	569	351	1305	6611
D 1940	510	640	145	86	655	726	493	182	805	243	645	219	1943	644	242	160	266	161	508	321	62	19	27	58	66		32	104	203	78	390	259	3496	1950	380	585	375	1340	6786
Ja 1941	515	640	145	86	660	726	493	182	808	243	645	219	1946	644	242	160	266	161	508	321	62	19	28	58	67		33	104	203	78	393	259	3507	1950	380	585	375	1340	6797
F 1941	515	639	145	86	660	725	493	182	753	243	633	219	1879	644	251	180	269	149	520	329	62	19	28	63	69		33	131	203	78	395	291	3454	1989	387	583	376	1346	6789
Mr 1941	487	639	145	86	632	725	465	182	748	243	633	219	1846	644	251	180	269	149	520	329	62	19	28	63	69		33	131	202	79	394	292	3392	1990	388	577	374	1339	6721
Ap 1941	487	639	159	86	646	725	463	182	771	243	633	219	1867	644	251	180	274	149	525	329	62	19	28	63	69		33	131	202	79	394	292	3432	1990	396	581	376	1353	6775
My 1941	508	639	159	86	667	725	448	197	732	265	635	240	1815	702	250	180	274	149	524	329	62	19	23	63	72		33	131	205	79	395	292	3401	2048	396	585	381	1362	6811
Je 1941	510	639	159	86	669	725	441	201	785	268	635	242	1861	711	250	180	274	149	524	329	73	19	25	63	72		33	131	203	79	406	292	3460	2057	396	591	384	1371	6888
Jl 1941	510	650	159	86	669	736	553	220	802	279	635	252	1990	751	250	180	274	149	524	329	90	19	27	63	72		34	131	220	79	443	292	3626	2108	396	613	397	1408	7142
Ag 1941	510	650	159	86	669	736	574	220	845	279	689	252	2108	751	262	180	292	149	554	329	90	19	27	63	72		34	131	220	79	443	292	3774	2108	406	629	400	1435	7317
S 1941	514	678	159	86	673	764	563	226	865	303	689	274	2097	803	262	200	289	187	551	387	106	29	33	72	79		35	131	221	79	474	311	3795	2265	433	649	422	1504	7584
O 1941	514	678	159	86	673	764	544	226	861	303	689	274	2094	803	262	200	289	187	551	387	106	29	34	72	80		35	145	227	79	482	325	3800	2279	433	650	422	1505	7584
N 1941	514	678	159	86	673	764	535	226	866	303	689	274	2090	803	262	200	289	187	551	387	106	29	39	72	79		35	145	227	79	486	325	3800	2279	433	650	422	1505	7584
D 1941	514	678	159	86	673	764	535	231	847	305	689	275	2071	811	262	200	298	187	560	387	106	29	44	72	79		35	145	229	79	493	325	3798	2287	434	651	423	1508	7592
J 1942	514	696	175	86	689	782	536	231	854	305	689	275	2079	811	262	200	314	187	576	387	64	29	48	72	79		35	145	229	81	457	327	3803	2307	431	653	423	1507	7617
F 1942	514	696	175	86	689	782	540	231	868	305	715	275	2123	811	262	200	324	187	586	387	64	29	49	72	79		37	145	229	81	460	327	3858	2307	433	660	424	1517	7682